

A. Control Measure under Consideration	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, \$\$)	H. Additional Information
<b>11 South Carolina State Measures</b>							
<b>Comments:</b> Modeling for 2007, shows attainment without including measures beyond national and regional measures already finalized.. 2012 and 2017 also shows attainment.							
<b>11 Appalachian, SC (Effective date of nonattainment designation deferred) - Anderson County</b>							
Truck Stop Electrification Project	51 spaces outfitted with Idle Aire Technology	In process of identifying additional truck stops that are willing to install technology.	February 2005	1,836 tons/year	36.21 tons/year	State Grant	CO reductions 15.3 tons/year December 2004 EAC SIP - Appendix 16 December 2004 Progress Report June 2005 Progress Report
School Bus Retrofit Project	Approximately 47 diesel buses will be retrofitted particulate filters during 2006. (additional reductions of PM are also expeted)	Seeking funding to equip additional buses with technology.	2006 and beyond	391 lbs/year	N/A	N/A	CO reductions 2,737 lbs/year December 2004 EAC SIP - Appendix 16
Gas Can Exchange Project	On September 10, 2005, Anderson County in conjunction with SC DHEC and several corporate sponsors such as Michelin, Wal-Mart and Sonic, held a gas can exchange for the residents of Anderson County. Anderson County intends to periodically hold these events throughout the county to promote the use of ventless gas cans.	83 gas cans that vents VOC into the atmosphere were traded in for ventless gas cans. Seeking additional funds to hold additional exchanges in 2006.	2005	355 lbs/year	N/A	N/A	
News release, PSA, and web page awareness tools	Comments #7 and 8	All news releases concerning items relating to the Early Action Compact are released on the county website and sent to local news outlets	2006-2007	N/A	N/A	N/A	<a href="http://andersoncountysc.org">http://andersoncountysc.org</a>
<b>DECEMBER 2006 PROGRESS REPORT FOR ANDERSON COUNTY</b>							
<b>Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.</b>							
Air Quality Awareness and Improvement Policy	Memorandum sent to all County departments for the purpose of establishing certain principles that will guide the recurring activities of County government. Purpose of policy is to establish certain principles that will guide the recurring activities of Anderson County government. 1. Encourage employee car-pooling opportunities, when feasible, especially when travel in County vehicles is involved. 2. Purchase the lowest-emission vehicles practical to meet County needs. This may include the purchase of Tier II compliant vehicles, alternative fueled vehicles or hybrids. It is the goal of this county, that where practicable, to purchase hybrid or AFV's when conditions warrant and allow. 3. Ensure that all County vehicles and equipment are operating according to the manufacturer's specifications. 4. Restrict vehicle idling to no more than 5 minutes. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected. 5. Where feasible and practicable, restrict mowing and use of gas powered lawn equipment on County property on Ozone Action Days. 6. Restrict all County-sponsored outdoor burning on Ozone Action Days. 7. Practice energy conservation in all County facilities. The County will set a goal of reducing energy use by encouraging 8. Include environmental considerations in purchasing decisions for goods and services. An example of such would be to 9. Departments are encouraged to Refuel vehicles where possible at times of the day that will have the least impact on O SEE Comment #6	County staff is currently implementing portions of the memo applicable to each division.	Effective immediately - October 12, 2004	N/A	N/A	N/A	The commitment to address these activities has been assured by the County Administrator by establishing the Air Quality Awareness and Improvement Policy for County Government. 1. See comment #6.
1. Support SCDHEC statewide efforts to reduce ozone levels.	Stakeholder group to support and participate in modeling efforts. Develop stakeholder group to participate in development of regulations (NOx - BACT (Best Available Control Technology Economically Achievable), restrict open burning).	December 2004 EAC SIP did include Appendix 16 - 1. SC61-62.2 "Prohibition of Open Burning" regulation with reductions for 2007 calendar year - reductions expected during the ozone season for residential construction waste  2. SC61-62.5, Std. 5.2 "Control of Oxides of Nitrogen" reduction amount for both existing and new sources combined across Anderson, Greenville, Spartanburg for 2007 calendar year  June 24, 2004 - Participated in Uprate Air Quality Steering Committee meeting held at BMW. See Comment #4.	1. June 25, 2004  2. June 25, 2004	28.04 tons/season  N/A	5.90 tons/season  234.1 tons/yr	N/A	See Comments #1, #2, #3, #6
2. Designate an Ozone Action Coordinator	Designate a staff person in each County who will be responsible for coordination of counties ozone programs	Vic Carpenter and David Scott	March 2003	N/A	N/A	N/A	
3. Seek low sulfur fuels as early as possible	Continue to coordinate with representatives of Colonial and Plantation pipelines, refiners, and State representatives to ensure that the upstate has the opportunity to receive low sulfur fuels at the earliest date as they can be provided.	We continue to coordinate with the aforementioned entities, and eagerly await the date at which we will receive low-sulfur fuels. The Environmental Protection Agency's ultra-low sulfur diesel fuel requirements went into effect on June 1, 2006. Ultra-low sulfur diesel fuel will be available at retail stations beginning summer 2006. <b>Anderson County started using low sulfur fuels (less than 15 parts per million) in all of its diesel equipment starting September 1, 2006.</b>	June 1, 2006	N/A	N/A	N/A	
4. Design and implement congestion management and Intelligent Transportation System (ITS) measures.	Implement congestion management projects: intersection and signalization improvements to alleviate traffic congestion, therefore, reducing emissions from idling vehicles; Implement Intelligent Traffic Systems such as automated advisory/alert messages to drivers on interstate highways. For example: advise motorist about an accident ahead and the use of alternate routes to avoid congestion, which minimize emissions from idle vehicles. Encourage and support improved traffic operational planning, engineering and maintenance for existing and future transportation infrastructure.	County in the process of implementing congestion management plan on several major thoroughfares; cameras and variable message boards have been installed on I-85 through Anderson, Greenville and Spartanburg Counties. Anderson County Council, at its December 6, 2005 meeting, passed a resolution creating a committee to investigate capital funding projects for roads and bridges; within that commission, they will also be looking at funding for projects to relieve congestion on county roads and the addition of bike lanes on county roads. Report will be completed by July 2006. In March 2006, Anderson County, in conjunction with the City of Anderson, completed a traffic synchronization project on East Greenville Street, one of the busiest streets in Anderson. The synchronization will reduce the idling time of vehicles along East Greenville Street, reducing the amount of VOCs entering the atmosphere. The Greenville-Pickens Area Transportation Study	Implementation began in 2005. Synchronization project was completed March 2006. <b>SCDOT is installing an ITS billboard between mile marker 37 and 38 in Anderson County. Installation should be completed in early 2007.</b>	N/A	N/A	N/A	

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5. Use of hybrid vehicles	Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/fleet Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle contract.	June 2005 Progress Report - countywide resolution to purchase cars alternatively fueled or hybrid vehicles. On June 1, 2006 the Governor signed the H*4312(Rat #0371) General Bill. Act 312, R371, H4312 Bill may be viewed at <a href="http://www.scstatehouse.net/sess116_2005-2006/bills/4312.htm">http://www.scstatehouse.net/sess116_2005-2006/bills/4312.htm</a> and its caption reads: An act to amend the Code of Laws of South Carolina, 1976, by adding Section 12-6-3377 so as to allow a state income tax credit equal to twenty percent of certain new hybrid, fuel cell, alternative fuel, or lean burn technology motor vehicle. Credits allowed against a taxpayer's federal income tax liability.	Completed in 2005 and continuing. County will purchase hybrid vehicles as they become feasible to the job performance.	N/A	N/A	N/A	See measure 12 for additional information.
6. Use higher efficiency engines for school buses	Require purchase of high efficiency engines for school buses as they are replaced. In South Carolina, the SC Department of Education is in charge of maintenance of school buses. DHEC is working with SC Department of Education to obtain grants from EPA. Promote an Adopt-A-School-Bus Program. Endorse a statewide recommendation for the State to take the lead	In 2006, approximately 47 diesel buses will be retrofitted with particulate filters, which will create additional PM reductions. The school buses may not be retrofitted until 2007 when ultra-low sulfur diesel is more widely available since the retrofitting technology being applied works best with this new fuel type. The South Carolina Department of Education (SDE) has been awarded a Clean School Bus USA Grant for \$499,099 to retrofit some buses in South Carolina with diesel oxidation catalysts and crankcase filters, replace some older buses and conduct a biodiesel pilot and an idle-reduction device pilot. State education superintendent Inez Tenenbaum signed an order on June 20, 2006 to buy 630 new school buses with roughly \$36 million appropriated by the Legislature. These buses should be on South Carolina roads by the end of the year. These new buses will replace vehicles from 1984 and 1985 which are not fuel efficient and produce higher levels of polluted emissions than more modern vehicles. The benefits from these SDE funding sources will be distributed throughout the	Completed. Implementation began in 2006 and is continuing.	N/A	N/A	N/A	Reductions accounted for under School Bus Retrofit Project
7.a. Develop incentive programs and opportunity for citizens to choose alternative transportation modes.  Establish intermodal connections with an emphasis on mass transit	WALKING/BIKING Encourage local government to increase pedestrian/bicycle infrastructure spending (the Upstate spends 2 cents per person compared to SC spending 22 cents per person). Establish safer bike routes with better signs marking lanes and routes. Increase highway funding for bike paths, walking or mass transit including high-speed rail. Support the federal transportation enhancement program. Install bike racks on all transit vehicles to encourage intermodal transportation. New buses purchased through the state's bus purchase program will have bike racks. PARK and RIDE Establish mass transportation between a plant and a park-and-ride site. CARPOOLING Work with local government to offer incentives employees to car pool. MASS TRANSIT Offer a free trolley service running in a loop in downtown areas and nearby restaurants, especially during lunch hours. Research past feasibility studies on free downtown shuttles. Potential for sponsorship with local area restaurants and businesses for a lunch time shuttle could defer the operational costs of the endeavor. Support mass transit (transportation choices and alternatives): While the only local mass transit choice that is currently available is the transit bus, example of future options such as bus rapid transit, commuter passenger service offered by trains on existing rail systems, a diesel multiple unit or "light rail" should be supported.	• Clemson Area Transit (CAT) bus lines include the Anderson 4U Route with service to Tri-County Tech and the City of Anderson. This route connects with Electric City Transit. The CAT buses are equipped with bicycle racks for easier transport of bicyclists within the various CAT bus routes. The CAT bus system is a free option, and Electric City Transit offers free rides during the Christmas holiday season (late November-December.) • Anderson County has attempted to work with owners of vacant stores for use of their parking lot, and with industries to shuttle employees; however each owner does not wish for the potential liability in their parking lot. Industries seem amenable, no definitive answer was given. • The County is currently working with the City of Anderson to possibly reserve parking spaces in the downtown lots for carpooling people. • In October 2006, the Clemson Area Transit, a free bus service serving Anderson and Pickens Counties, expanded its service area to Oconee County, providing free service to those people traveling to Anderson County for school and recreation purposes.	Completed in 2005 and continuing.	N/A	N/A	N/A	
7.b. Offer free or reduced transportation cost on high ozone days.	MASS TRANSIT: Implement a coordinated high ozone day alert action plan to include public notification and free or reduced ozone fares from the transportation providers.	As funding is acquired for the incentives, the programs will be implemented. • Since 2002 Clemson Area Transit has provided a free shuttle system connecting Anderson University, Tri-County Technical College, Southern Wesleyan University and Clemson University in addition to the City of Clemson, the City of Anderson, and the Towns of Central and Pendleton. Clemson Area Transit has the largest ridership for a fare-free bus line in the United States. It is also South Carolina's most frequently used transit system. The fare-free system is funded through federal grants and matching funds from the city and University. CAT has the most modern fleet of buses east of the Mississippi River. • Electric City Transit provides discount fares to senior citizens, the disabled, Medicare card holders, students, and children (free). • Since free and discount fares are already available, when county funding is acquired for the incentives, the programs will be further implemented or expanded. • At its May 11, 2006 meeting, business leaders in the Air Quality Advisory Committee recommended contacting the Chamber of Commerce and request assistance.	Completed in 2005 and continuing.	N/A	N/A	N/A	
7.c. Reduce vehicle miles traveled by developing efficient user-friendly transit systems.	Integrate transportation planning with land use planning so public transit can make a comprehensive contribution to economic development and mobility; Remove local barriers to densification in downtowns, infill areas, and transit stations and corridors.	The Clemson Area Transit (CAT) system coordinates with the Electric City Transit (ECT) system to provide free or low cost public transportation to Anderson and Pendleton, SC. • CAT buses are equipped with wheelchair ramps and bicycle racks. CAT also provides personal escorts by appointment to aid new passengers in finding their way around and learning to read the bus map. CAT has partnered with C.U. Parking Services to coordinate a shuttle service from the Park and Ride lot. • All ECT buses are permitted to leave their regular route at the request of riders who live outside the regular routes. • In September 2006, Anderson County officials asked state officials for \$44,000 to look at whether the area's transit system should be expanded to offer residents more options to get to work. A \$40,000 grant could pay for the feasibility study. Officials from local transit providers and social service agencies have identified that available transportation as a "primary barrier" to finding a job. Creating a more comprehensive transit system will be the first step	Some actions have been completed prior to 2006. Implementation of additional actions will take place as funding is acquired.	N/A	N/A	N/A	
8. Review and update air emission inventory for the Upstate	Ensure all industrial sources still operating. Review industrial sources for plant closures. Identify major sources of NOx Map the locations of point sources (10% of point sources cannot be found). Map the specific locations and the area sources where coal is burned.	Completed. This information was included in the December 10, 2003 Early Action Compact Milestone on pages 20 through 37.	Completed in 2003	N/A	N/A	N/A	SCDHEC

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9. Support SCDHEC in evaluating and seeking reductions from major sources based on modeling	Coordinate with Duke Power to determine what NOx reductions are planned for the Lee Steam Plant Coordinate with the Williams Company to determine what NOx reductions are planned for the TRANSCO Pipeline. Support NOx reduction strategies in the State Implementation Plan Develop an Early Reduction Program with incentives for industrial facility (Tier Two Type emissions NOx sources)	See info on Duke Power included in Appendix 16 of EAC SIP (link in Comment #6) June 2004: • Transcontinental Gas Pipe Line Corporation (Transco) Station 140, Moore, SC; Operating Permit 2060-0179. Transco has 14 natural gas fired internal combustion (IC) engines that collectively accounted for 3,822 tons of ozone season NOx emissions during 1997. Transco has submitted a construction permit application to put on NOx controls that will result only 1,261 tons of ozone season NOx emissions. The permit was approved on April 27, 2004. • The Williams Company has received DHEC permits to replace outdated "uncontrolled" compressors on the pipeline located in Duncan. Replacement of the compressors began in late 2004 and continued until late 2005. This will result in a significant NOx reduction for the Upstate. • NOx reduction at the Duke Power Lee Steam Plant: Coal fired Unit #2 is now operating with the new NOx burners and final manufacture set up for acceptance is to be conducted in June 2006. Monitoring data indicates that the burner should at	Implementation began in 2004 and was completed May 2006.	N/A	40%	N/A	
10. Develop a program to offer to purchase or repair smoking vehicles (known as cash for clunkers).	Use funds generated from a license plate sales, registration fees, or license plate tax program to buy or repair high emitting vehicles from individuals. Purchase such vehicles from non-profit groups such as the Kidney Foundation, Goodwill, Salvation Army when they have been donated as charitable gifts. Consider accelerated vehicle retirement (scrappage) programs to encourage vehicle owners to voluntarily retire their vehicles sooner than they would have otherwise.	• During its August 5, 2003, the AQ Staff Advisory Committee discussed this strategy. A high emission vehicle buyback or repair program appears to be cost effective for VOC emissions, but is less clear for NOx emissions. It is hard to quantify the success rate of the program in the various states the program has been implemented, but the program seems to make intuitive sense. This type of program will become increasingly more important as the new vehicle pollution control systems increase the gap between the new vehicle's emissions and the "smoking" vehicle's emissions. Recommendation: funding the high emission vehicle buyback or repair program as a pilot program with a set yearly target for the number of vehicles that will be either repaired or scraped. A follow-up study on this pilot program would need to be implemented to determine the impact on emissions (ozone) for the upstate. • In the summer 2006, staff from the Air Quality Staff Advisory Committee will meet with Goodwill Industries, Salvation Army and Kidney Foundation representatives to	Implementation began in 2003. Completion of this measure will depend on discussions with the non-profit organizations.	N/A	N/A	Use funds from license plate sales	
11. Ban open burning of on-site commercial clearing debris during ozone season (April - October)	Use SCDHEC model to determine the most effective method to ban open burning. Discuss modeling results with all local governments to consider adoption.	• At the November 2005 Air Quality Steering Committee meeting, the Committee directed staff to coordinate with local governments to enforce DHEC's burning ban year-round. • DHEC encourages Anderson, Greenville, and Spartanburg to actively notify all residents that the statewide ban is now in force and violations are punishable by law. • A DHEC press release was issued to the upstate on November 8, 2005 See Comment #6.	Completed on June 25, 2004 with the passage of regulation SC 61-62.2 "Prohibition of Open Burning".	N/A	N/A	N/A	
12. Create incentives for the purchase of high efficiency and low emissions vehicles.	Offer tax credits for vehicles with high efficiency gas consumption or low emissions. Offer tax credits for low mileage vehicles instead of high mileage vehicles	• Developing draft bill to offer reduced tax incentives for those purchasing low emitting vehicles. • A bill titled; An act concerning the promotion Of alternative use fuel, and hybrid propulsion System For transportation purposes was submitted to the SC House of representatives in January 2005. • On June 1, 2006 the Governor signed the H*4312(Rat #0371) General Bill. Act 312, R371, H4312 Bill may be viewed at <a href="http://www.sccstatehouse.net/sess116_2005-2006/bills/4312.htm">http://www.sccstatehouse.net/sess116_2005-2006/bills/4312.htm</a> and its caption reads: AN ACT TO AMEND THE CODE OF LAWS OF SOUTH CAROLINA, 1976, BY ADDING SECTION 12-6-3377 SO AS TO ALLOW A STATE INCOME TAX CREDIT EQUAL TO TWENTY PERCENT OF CERTAIN NEW HYBRID, FUEL CELL, ALTERNATIVE FUEL, OR LEAN BURN TECHNOLOGY MOTOR VEHICLE CREDITS ALLOWED AGAINST A TAXPAYER'S FEDERAL INCOME TAX LIABILITY.	Implementation began in 2005 and was completed June 1, 2006.	N/A	N/A	N/A	
****Develop air quality best management practices (BMPs)_ for construction sites	Develop a generic list of BMPs Develop management practices for construction debris. Develop management practices for emissions from construction vehicles. Develop management practices for traffic controls during construction.			N/A	N/A	N/A	....not included in March 2004 submittal  was included in December 2003....
13. Use land-use and transportation planning to improve air quality	Include air quality measures as a part of the land-use and transportation planning process.	• Highlights of the Anderson County Land Use and Development Standards include items that develop standards with respect to landscaping and open space, promote public health and safety through the reduction of noise pollution, storm water runoff and air pollution. Also included are development standards with "Greenways" defined which link residential areas with other open space areas. These Greenways may contain bicycle paths, footpaths, and bridle paths. Additionally, intensity standards (designed principally to regulate land use in accordance with the design function and carrying capacity of the road on which it is located) are being developed. • In the review process, Transportation staff does employ traffic thresholds that require various levels of congestion mitigation to reduce idling times, and they have been using the internal thresholds for two years. However, these thresholds are not defined in the ordinance, and so the review is intended as guidance for future use to show where potential problems are most likely to occur in the future.	Completed in 2004.	N/A	N/A	N/A	

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14. Implement a program to encourage use of green power.	Capture emissions from landfills to produce green power, e.g., BMW is utilizing Palmetto Landfill emissions to produce energy for its plant. Implement a Purchase Green Power program when available. Green power is electricity generated by renewable resources like solar, wind, and even decomposing garbage in selected landfills. These resources are replenished naturally and minimize harm to the environment.	In 2005, Blue Ridge Electric Cooperative in Anderson County has begun offering the purchase of "Green Power" to its members. The Green Power is Generated by Santee Cooper, who is the source of power for all of the electric cooperatives in South Carolina. Santee Cooper is constructing a Green Power station at the Anderson Regional Landfill that will enter commercial operation in 2006.	Completed in 2005 and continuing.	N/A	N/A	N/A	Please go to <a href="http://www.santeecooper.com/greenpower/newsroom/newsletters/gpnnews_fall2005.pdf">http://www.santeecooper.com/greenpower/newsroom/newsletters/gpnnews_fall2005.pdf</a> for the Fall newsletter and <a href="http://www.santeecooper.com/greenpower/newsroom/letters.html">http://www.santeecooper.com/greenpower/newsroom/letters.html</a> for the "Green Power" newsletter.
15. Promote route efficiency for delivery vehicles, trash collection etc.	Encourage business to consolidate distribution and collection routes to improve efficiency and reduce emissions from their fleets. Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle trips to reduce fuel usage.	<ul style="list-style-type: none"> <li>• The Solid Waste Division, since 2003, has encouraged and continues to encourage all its trash haulers to use the most direct route to pick up trash. This will reduce driving time and reduce emissions.</li> <li>• Delivery companies currently use GPS mapping programs to map the most cost effective route to save gasoline. The local public transportation system have designated routes, but they take steps to reduce idling time of the buses, such as reducing speeds and an 2 minute tardy schedule to make sure no one is left behind at a bus stop. They have been implementing these gas saver items since 2000.</li> </ul>	Completed in 2003 and continuing.	N/A	N/A	N/A	
16. Establish a clean air partnership with business and industry.	Encourage and coordinate alternate work schedules such as staggered work hours for business, industry and local governments. Establish park and ride lots serving perimeter counties along major corridors. Make the public aware of the park-and-ride concept: media could assist in publicizing which programs are available. Encourage carpooling/vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicle to work. Consider parking facility controls that can include employers offering a tax-free transit/vanpool benefits and which limit the amount of parking and encourage carpooling, mass transit, etc. Encourage telecommuting. Adopt a Bus Program. Develop funding to be used for matching grants fund for several EAP strategies. Develop a core competency and assisting the Upstate EAP group in writing grant proposal.	<ul style="list-style-type: none"> <li>• In 2004 staffs of Greenville County Planning Commission, Greenville Transit Authority and Greater Greenville Chamber of Commerce have begun joining effort to develop a feasibility study for Park-n-Ride program and/or Ride-Share program for Greenville County. Information will be shared with Anderson and Spartanburg counties.</li> <li>• Michelin North America, on November 29, 2005 announced that their two Anderson County plants have qualified for membership in the National Environmental Performance Track program. They are among 400 facilities nationwide that have met the stringent requirements. Michelin is also investing \$80 million to expand and upgrade the two plants to reduce environmental impacts within Anderson County.</li> <li>• Duke Power has agreed to reduce the idling time for their vehicles during ozone season. During ozone season, all vehicles will not idle for more than 30 seconds before the vehicle is shut down. With the 88 diesel trucks and 265 gasoline trucks in use in Anderson County, that equates to a reduction of 530 pounds VOC</li> </ul>	Completed in 2005 but progress and improvements will continue on this strategy.	530 lbs/year	765 lbs/year	N/A	<a href="http://greenvilleonline.com/apps/pbcs.dll/article?AID=/20051129/BUSINESS/511290340">http://greenvilleonline.com/apps/pbcs.dll/article?AID=/20051129/BUSINESS/511290340</a>
17. Establish an active public awareness campaign.	Develop an editorial board to discuss air quality issues an development of a relationship with media. Use alert messages year round, not only during ozone season; Utilize public service announcement, newspapers, weather channels, and other media outlets to notify citizens of high ozone days. Utilize TV Channels to issue high ozone alerts using the crawl bar at bottom of TV screens. Encourage health organizations to sponsor ozone alerts in media. Enhance ozone awareness (Outreach-communication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC ground-level ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing, telecommuting, etc.). Develop a campaign to encourage things such as refueling vehicles during evenings, not topping off tanks when refueling, using lawnmowers during evenings instead of during high ozone hours, using of electric lawn mowers. Develop a license plate program to generate revenue to implement the public awareness campaign. Develop awareness program on tax savings for purchasing high efficiency vehicles.	<ul style="list-style-type: none"> <li>• Anderson County held a gas can exchange program on September 10, 2005, taking in 83 old cans.</li> <li>• Anderson County Staff sent out a news release (03/28/05) on Ground-level Ozone (GLO) Awareness Week and promoted this week on a local radio station, WRIX 103.1 FM. An article on GLO was also placed on their county webpage: <a href="http://www.andersoncountysc.org">www.andersoncountysc.org</a></li> <li>• Anderson County received and distributed 200 Ozone and Your Health brochures. June 2006: An Ozone-No-zone seminar was held as a local education program teaching how ground level ozone affects our daily lives.</li> <li>• 4-U Transit system connecting Anderson, Pendleton, Clemson and Central;</li> <li>• Anderson's Electric City Transit "FARE Free" program; light rail project;</li> <li>• Tree legacy program, Tree I.D. program; Arbor Day plantings; City of Iva continual member of "Tree City USA" Ozone Awareness Week;</li> <li>• Earth camp, offered at the Anderson Co. Recycling Education Center covered Air Quality, Recycling, and Trees.</li> <li>• July 31, 2006, Greenville News published "More air woes could blow Upstate's way."</li> <li>• July 16, 2006, Greenville News published "Emissions levels suit creates cloud of uncertainty for industry."</li> </ul>	Completed in 2005. Education and outreach are continuing.	N/A	N/A	N/A	
18. Promote research in energy efficiency at local universities, industries, energy companies, federal government, and other institutions that improve air quality.	Establish programs to research energy efficiencies at local universities, e.g., Institute for Energy Studies at Clemson University. Encourage business and industry to utilize the research from these programs to make the best decision concerning the purchase or upgrade of furnaces and boilers.	<ul style="list-style-type: none"> <li>• Members of the Air Quality Staff Advisory Committee met with staff from the SC Institute for Energy Studies (SCIES) from Clemson University in late summer 2003. As a result, researchers from SCIES made a presentation to the Committee on November 18, 2003. The South Carolina Institute for Energy Studies (SCIES) based at Clemson University is a state-chartered research and development organization established in 1981. Its objectives are to promote energy research and development in and for the state; to transfer energy technology developed by others to South Carolina applications; to contribute to national energy issues in areas of excellence; and to promote statewide energy-education activities. (Source: <a href="http://www.clemson.edu/scies/AboutSCIES.htm">http://www.clemson.edu/scies/AboutSCIES.htm</a>). Researchers from SCIES became members of the Air Quality Staff Advisory Committee mailing list to transfer knowledge and latest undertakings on these efforts.</li> <li>• ALTERNATIVE FUELS: In 2005, Clemson University Chemical engineering professor Mark C. Thies received an \$856,000 award from the Department of Energy (DOE) to develop more efficient processes for the centralized production of hydrogen by splitting water. The award wa</li> </ul>	Completed November 2003 but will continue monitoring progress of ongoing research.	N/A	N/A	N/A	

A. Control Measure under Consideration	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, \$\$)	H. Additional Information
19. Use of alternate fuels.	Direct local Planning Commissions to identify areas where alternative fuels will be best suited. Encourage the use of alternate fuels; Assist with establishing alternative fuel infrastructure for private sector clean fuel fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles. Anderson county owns 37 alternative fuel vehicles and purchased 1,520 gallons of biodiesel in 2004.	<ul style="list-style-type: none"> <li>• There were 1,520 gallons of biodiesel purchased in 2004 in Anderson County.</li> <li>• Currently there are no ethanol refueling facilities in Anderson County, but plans call for the construction of one by the end of 2005.</li> <li>• There is currently one Spinx station that offers Ethanol 85% fuel in Anderson County. There are 5 other Ethanol 85% stations and 5 biodiesel stations within a 25 mile radius of downtown Anderson. Stations can be located using the U.S. Department of Energy Alternative Fuels Data Center Website at <a href="http://www.eere.energy.gov/afdc/infrastructure/locator.html">http://www.eere.energy.gov/afdc/infrastructure/locator.html</a></li> </ul> <b>ALTERNATE FUELS:</b> In 2005, Clemson University Professor James G. Goodwin, Jr., chair of the Clemson's chemical and biomolecular engineering department, received a DOE grant for energy research through DOE's State Technologies Advancement Collaborative. Goodwin's work focuses on the performance of iron-based bimetallic catalysts that are crucial to synthesis of clean fuels, additives and lubricants derived from coal and biomass gasification. Clemson will lead a partnership that includes Louisiana State University, the S.C. State Energy Office, the Louisiana State Energy	Completed in 2005 and continuing.	N/A	N/A	N/A	
20. Evaluate the use of High Occupancy Vehicle (HOV) lanes using existing lanes.	Evaluate use of HOV on three (3) lane interstate highways; Show the advantages of designating HOVs; Pass laws establishing regulations on HOVs lanes such as the threshold in the number of passengers (perhaps two) in the vehicle using HOVs lanes and time of day for the lane to be designated as HOV (rush hour). Pass laws authorizing issuance of tickets for violations of HOVs lanes regulations, i.e., one-passenger vehicles using HOV lanes on designated hours.	<ul style="list-style-type: none"> <li>• During its August 5, 2003, the AQ Staff Advisory Committee discussed and evaluated the implementation of this strategy. The Committee concluded that "HOV lanes work best where an interstate or a limited access arterial lead directly to major employment centers, usually within a central business district (CBD). With the exception of I-385 leading to the Greenville CBD, Upstate interstates (especially I-85) generally link the cities of Anderson, Greenville, and Spartanburg via peripheral routes, not conducive to the addition of HOV lanes. In addition, inter-county work trends do not show major volumes that would support car-pooled trips. Making the third lane of I-85 an HOV lane would severely increase congestion, emissions, and future accidents. The addition of new lanes would be cost prohibitive, and would not be allowed to revert to a single occupancy vehicle (SOV) status without reimbursement to the federal government."</li> <li>• Traffic engineers with SCDOT indicate that because traffic volumes on I-85 exceed 100,000 vehicles daily on the 3 lanes of the interstate it would be unwise to convert one of the three lanes to a HOV lane. The offsetting increase in congestion is</li> </ul>	Completed in 2004.	N/A	N/A	N/A	
21. Modify speed limits for optimum fuel efficiency.	Direct SCDHEC and SCDOT to take the lead role. Direct Planning Commissions to assist SCDHEC in modeling.	The ANATS MPO was designated as urban by the US Census following the 2000 census and as a result speed limits on the interstate highways for the majority of Anderson County has been established at 60 mph. No further action is planned.	Completed in 2005.	N/A	N/A	N/A	
22. Develop process for evaluating and minimizing impact of major projects such as shopping centers, schools, and subdivisions.	Study impact of post construction traffic flow. Study impact of construction activities.	<ul style="list-style-type: none"> <li>• If land is zoned for the intended use of the property, the traffic impacts are monitored via trip monitors that measure the traffic flow through a particular stretch of roadway to use in future planning of road widening projects.</li> <li>• If land is not zoned for the type of land use a developer wishes to use it for, he or she must petition the County Council to change the zoning for the new purpose.</li> <li>• Planning officials will also inform Council whether it approves or disapproves of the zoning request, depending on the current population density, the current condition of the road, and the potential for increase in congestion. Although the Planning division can disapprove of a project, the developer can still make the request of the Council.</li> <li>• At the Council meeting, residents in the affected areas can also state their wishes for the development. The Council takes all this information under consideration, but ultimately it will be up to the Council to approve or deny.</li> <li>• These policies were enacted July 20, 1999, and revised April 15, 2003.</li> </ul>	Completed in 2003.	N/A	N/A	N/A	
23. Community Schools to reduce vehicle miles traveled and encourage biking and walking for students and parents by encouraging smaller community-based schools that are integrated into neighborhoods	Eliminate minimum acreage requirements for school sites. Cap student populations per facilities. Require coordination among school boards and local governments to plan school sites and avoid conflicts with local planning goals. Favor restoration and construction of community-based small schools over new construction of remote mega schools.	<ul style="list-style-type: none"> <li>• Anderson County encourages the State to modify the state law that dictates minimum acreage for schools, and also encourages the school districts to refurbish existing schools. If the school districts and the state ever decided this would become policy, Anderson County would not have any hesitation to wholeheartedly back all the school districts within the county in their efforts to create community schools to reduce traffic</li> <li>• The South Carolina School District Reorganization and Realignment Act of 2006 was introduced in the House on January 24, 2006 and is currently residing in the House Committee on Education and Public works. This bill states that the Education and Oversight Committee shall study and examine the optimum size, including both geographic area and student population. A copy of this bill is available online at <a href="http://www.scsenatehouse.net/sess116_2005-2006/bills/4488.htm">http://www.scsenatehouse.net/sess116_2005-2006/bills/4488.htm</a></li> <li>• Anderson County is awaiting the committee's recommendations and the manner in which they may take effect if this bill is enacted.</li> </ul>	Completed in 2006 and continuing.	N/A	N/A	N/A	<ul style="list-style-type: none"> <li>• SECTION 203 SCHOOL SITES</li> <li>203.1 South Carolina Code Ann. § 59-23-250 (to be codified at Supp. 2003) eliminates minimum acreage requirements for public school sites. However, school districts must receive approval from the South Carolina Department of Education prior to property acquisition or additions on existing properties.</li> <li>203.2 The State Department of Education encourages districts to consider acreage for school sites as established by the Council of Educational Facility Planners International (CEFPI).</li> </ul>

**Comments:**

1. December 2004 - SC EAC SIP - activity not quantified for several reasons (first) in accordance with EAC Protocol, after all adopted Federal and State controls were accounted for in the modeling, it was determined that local controls were not necessary to demonstrate attainment of the 8-hour ozone standard. Measures were submitted by the local areas to show their continued support and commitment to the EAC process. (second) this activity is directionally sound and should provide air quality benefits and in some cases measurable results. The progress toward implementing this activity and the benefits derived will be documented as a part of the ongoing reporting requirements.
2. December 2003 - Progress Report - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_dpr\\_eac.html](http://www.scdhec.gov/eqc/baq/html/eap_dpr_eac.html) - additional information provided by the county to include "findings", "advantages/disadvantages", "recommendations", "costs", etc....
3. March 2004 - Local Early Action Plan - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_eac\\_0304.asp](http://www.scdhec.gov/eqc/baq/html/eap_eac_0304.asp)
4. June 2004 - Progress Report - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_dpr\\_eac\\_0604.asp](http://www.scdhec.gov/eqc/baq/html/eap_dpr_eac_0604.asp)
5. December 2004 - Progress Report - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_dpr\\_eac\\_1204.asp](http://www.scdhec.gov/eqc/baq/html/eap_dpr_eac_1204.asp)
6. December 2004 - SC EAC SIP - Including Appendix 8 (Local Early Action Plans and the Air Quality Awareness and Improvement Policy) and Appendix 16 (County Level Emission Reductions and Descriptions for the Ozone EAC Areas) - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_sip.html](http://www.scdhec.gov/eqc/baq/html/eap_sip.html)
7. April 20, 2005 - Correspondence to Mr. Palmer including clarifying supplemental information to the EAC SIP submittal of December 2004. - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_sip.html](http://www.scdhec.gov/eqc/baq/html/eap_sip.html)
8. June 2005 - Progress Report - See - [http://www.scdhec.gov/eqc/baq/html/eap\\_dpr\\_eac\\_0605.asp](http://www.scdhec.gov/eqc/baq/html/eap_dpr_eac_0605.asp)

December 2006 - Early Action Compact Progress Report  
**Anderson County**

**In an effort to keep your contact information updated we have provided the following information for our county:**

	Name	Telephone	E-mail Address
Administrator/Manager	Joey R. Preston	(864) 260-4031	<a href="mailto:jpreston@andersoncountysc.org">jpreston@andersoncountysc.org</a>
EAC contact	Vic Carpenter	(864) 260-1001	<a href="mailto:vcarpenter@andersoncountysc.org">vcarpenter@andersoncountysc.org</a>
	David Scott	(864) 260-1001	<a href="mailto:dscott@andersoncountysc.org">dscott@andersoncountysc.org</a>

The following measures were not included in the South Carolina Early Action Compact SIP but are directionally sound and are anticipated to assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

**Anderson, Greenville, and Spartanburg Resolution**

Anderson County, Greenville County, and Spartanburg County each entered into a resolution as a cooperative means of improving air quality to meet applicable state and federal air quality standards. By entering into this resolution, the Counties agreed to the following:

1. Each County will provide individuals to serve on a Steering Committee. The Steering Committee will strive to finalize an Upstate Air Quality Action Plan. The Air Quality Action Plan is intended to be a guide for implementation of proactive measures that will bring the Participating Counties into compliance with the 8-hour ozone standard consistent with DHEC's Early Action Plan. The Steering Committee will consist of no more than 21 voting members (7 from each county). Advisory (non-voting) members may be appointed up to a maximum of seven from each county.
2. Implementation costs of the air Quality Action Plan will be specified and quantified by the Steering Committee including ongoing direct and indirect costs that will be incurred by state and local governments, businesses, and individual taxpayers.
3. The Steering Committee will prepare a report detailing and quantifying the economic impact and costs associated with non-attainment status that have been incurred by the four geographic non-attainment areas most closely located near Anderson, Greenville and Spartanburg.
4. Once an Air Quality Action Plan is developed by the Steering Committee, each of the Participating Counties will consider adoption of the Air Quality Action Plan within the boundaries of the respective participating Counties consistent with the goals of the Early Action Program.

**Air Quality Awareness and Improvement Policy**

Memorandum sent to all County departments for the purpose of establishing certain principles that will guide the recurring activities of County government.

Purpose of policy is to establish certain principles that will guide the recurring activities of Anderson County government.

1. Encourage employee car-pooling opportunities, when feasible, especially when travel in County vehicles is involved.
2. Purchase the lowest-emission vehicles practical to meet County needs. This may include the purchase of Tier II compliant vehicles, alternative fueled vehicles or hybrids. It is the goal of this county, that where practicable, to purchase hybrid or AFV's when conditions warrant and allow.
3. Ensure that all County vehicles and equipment are operating according to the manufacturer's specifications.
4. Restrict vehicle idling to no more than 5 minutes. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected.
5. Where feasible and practicable, restrict mowing and use of gas powered lawn equipment on County property on Ozone Action Days.
6. Restrict all County-sponsored outdoor burning on Ozone Action Days.
7. Practice energy conservation in all County facilities. The County will set a goal of reducing energy use by encouraging the wise use of electronically powered equipment, HVAC systems and lighting.
8. Include environmental considerations in purchasing decisions for goods and services. An example of such would be to purchase Energy Star equipment.
9. Departments are encouraged to Refuel vehicles where possible at times of the day that will have the least impact on ozone levels.

#### **News release, PSA, and web page awareness tools**

All news releases concerning items relating to the Early Action Compact are released on the county website and sent to local news outlets, as well as our county web site, [www.andersoncountysc.org](http://www.andersoncountysc.org).

#### **Truck Stop Electrification Project**

Fifty-one spaced have been outfitted with Idle Aire Technology in Anderson County.

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

## ATTACHMENT 1

To South Carolina Department of Health and Environmental Control  
Environmental Protection Administration  
From: Anderson County, South Carolina  
Date December, 2006

Reference: Summary of progress in implementing air quality strategies adopted by Anderson County and included in our Early Action Compact.



## **1. Support SCDHEC statewide efforts to reduce ozone levels**

**Priority A**

### **Description of Measure**

Stakeholder group to support and participate in modeling efforts; Develop stakeholder group to participate in development of regulations (NOx-BACT (Best Available Control Technology), restrict open burning.

June 2004:

- Members of the Upstate Air Quality Staff Advisory Committee participated with SCDHEC in the development of new regulations aimed at reducing NOx emissions (June 2005 Progress Report).
- June 24, 2004 - Participated in Upstate Air Quality Steering Committee meeting held at BMW.
- The county supported SCDHEC in the promulgation of the following regulations: SC 61-62.2 "Prohibition of Open Burning" and SC 61-62.5 Std. 5.2 "Control of Oxides of Nitrogen. These regulations were published in the State Register on June 25, 2004. Estimated reductions are for both existing and new sources combined across Anderson, Greenville, and Spartanburg counties for the 2007 calendar year with additional reductions expected past 2007. The expected reductions from SC61-62.2 "Prohibition of Open Burning" are 13.73 tons per ozone season of NOx and 65.23 tons per ozone season of VOCs. In addition, 58.37 tons per year of PM will also be reduced. The expected reductions from SC 61-62.5 Std. 5.2 "Control of Oxides of Nitrogen are 234.1 tons per year of NOx.

June 2006:

- On May 11, 2006, the Upstate Air Quality Staff Advisory Committee recommended developing a business partnership plan to involve local industries in announcing ozone alerts and participating in ride share programs. Local Chambers of Commerce will be contacted by members of the Committee to request their assistance.

### **Estimate of Emission Reductions (if available)**

Equivalent to removing 359,500 cars from the road or 7190 tons of VOC. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed June 25, 2004.

## **2. Designate and Ozone Action Coordinator**

**Priority A**

### **Description of Measure**

Designate a staff person in each County who will be responsible for coordination of counties ozone programs.

March 2003:

- Anderson County will designate a staff person responsible for coordination of counties ozone programs. This measure was completed in March 2003.

June 2006:

- The current Air Quality Contacts are Vic Carpenter and David Scott. SCDHEC maintains a current list of all EAC contacts and it is available on their website:  
<http://www.scdhec.gov/eqc/baq/pubs/EAP/EACcontacts.xls>.

### **Estimate of Emission Reductions (if available)**

Not applicable. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed March 2003 and continuing.

### 3. Seek low sulfur fuels as early as possible

Priority A

#### Description of Measure

Continue to coordinate with representatives of Colonial and Plantation pipelines, refiners, and State representatives to ensure that the upstate has the opportunity to receive low sulfur fuels at the earliest date as they can be provided.

A date has not been given to us by the aforementioned entities, but we continue to coordinate with the aforementioned entities, and eagerly await the date at which we will receive low-sulfur fuels.

December 2004:

- The Committee has continued to coordinate with representatives of Colonial and Plantation pipelines, refiners. Based upon an unofficial status report from Kay Clamp with the SC Petroleum Institute “. We are fortunate in the Southeast because we receive much of our supply from the Gulf Coast, and 60% of the nation's refineries are in that area. A simple translation of that fact is that we are not dependant on one or two refineries for our fuel, and reap the benefits of a large number of refineries producing lower sulfur fuels.
- The maximum allowable sulfur level in gasoline for 2004 is 350 ppm with a corporate average of 120 ppm. Plantation Pipeline tests product entering their pipeline from every refinery, every day...their average from this testing has been and is 150 ppm in gasoline. Colonial Pipeline is also testing product from its shippers; the average sulfur levels for gasoline batches entering their pipeline YTD 2004 are 145 ppm for fungible regular gasoline and 62 ppm for fungible premium. Colonial did note that these averages are not volume weighted; they did not, however, think there would much difference if it were volume weighted. They also assumed that the regular and premium are averaged together for compliance.
- Both of the pipelines had the lower sulfur fuel in their facilities by late 2003; the fuel was at terminals serving South Carolina by January 2004, and was "on the street" by March 1, 2004”.

June 2006:

- The Environmental Protection Agency’s ultra-low sulfur diesel fuel requirements went into effect on June 1, 2006. Ultra-low sulfur diesel fuel will be available at retail stations beginning summer 2006.

December 2006

- Anderson County started using low sulfur fuels (less than 15 parts per million) in all of its diesel equipment starting September 1, 2006.

#### Estimate of Emission Reductions (if available)

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

Using the EPA’s Diesel Emission quantifier (<http://cfpub.epa.gov/quantifier/>), it is estimated that the switch will reduce nitrogen oxide emissions by 191,200 pounds (95.6 tons) per year and reduce particulate matter emissions by 8090 pounds (4.04 tons) per year.

**Implementation Date**

Implementation began in 2004 and was completed in 2006.

**4. Design and implement congestion management and Intelligent Transportation System (ITS) measures**  
**Priority A**

**Description of Measure**

Implement congestion management projects: intersection and signalization improvements to alleviate traffic congestion, therefore, reducing emissions from idling vehicles; Implement Intelligent Traffic Systems such as automated advisory/alert messages to drivers on interstate highways. For example: advise motorist about an accident ahead and the use of alternate routes to avoid congestion, which minimize emissions from idle vehicles; Encourage and support improved traffic operational planning, engineering and maintenance for existing and future transportation infrastructure.

June 2005:

- County in the process of implementing congestion management plan on several major thoroughfares; cameras and variable message boards have been installed on I-85 through Anderson, Greenville and Spartanburg Counties.

December 2005:

- Anderson County Council, at its December 6, 2005 meeting, passed a resolution creating a committee to investigate capital funding projects for roads and bridges; within that commission, they will also be looking at funding for projects to relieve congestion on county roads and the addition of bike lanes on county roads. Report will be completed by July 2006.

June 2006:

- In March 2006, Anderson County, in conjunction with the City of Anderson, completed a traffic synchronization project on East Greenville Street, one of the busiest streets in Anderson. The synchronization will reduce the idling time of vehicles along East Greenville Street, reducing the amount of VOCs entering the atmosphere.
- The Greenville-Pickens Area Transportation Study (GPATS) held two public workshops June 1 & 6, 2006. The workshops included a brief presentation and provided an opportunity for citizens to influence which projects would be implemented in the region. The GPATS study area includes areas in Anderson, Greenville, Laurens, Pickens and Spartanburg Counties.

December 2006

- SCDOT is installing an ITS billboard between mile marker 37 and 38 in Anderson County. Installation should be completed in early 2007.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Implementation began in 2005 and was completed in 2006.

## **5. Use of hybrid vehicles**

## **Priority A**

### **Description of Measure**

Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/fleet. Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle contract.

December 2004:

- There are approximately 109 alternative fuel vehicles operating within federal, state, county and municipal government. Of that amount 37 belong to the county. As directed by the County Administrator all future purchases will be either Hybrids or Alternative Fuel Vehicles, if practicable.

June 2005:

- Anderson County Administrator Joey R. Preston authorized a countywide resolution to purchase cars alternatively fueled or hybrid vehicles. County will purchase hybrid vehicles as they become feasible to the job performance. Vehicles that will be used primarily for transport of persons and light goods will be the first to be equipped with the flex and/or alternative fuel designations, as the demand on these vehicles are less than diesel and other heavy-duty vehicles. As more heavy duty vehicles are placed on the State contract for bids, preferential choices should and will go to vehicles that can perform the same task, but also has a flex/alternative fuel as an option.

June 2006:

- On June 1, 2006 the Governor signed the H\*4312(Rat #0371) General Bill. Act 312, R371, H4312 Bill may be viewed at [http://www.scstatehouse.net/sess116\\_2005-2006/bills/4312.htm](http://www.scstatehouse.net/sess116_2005-2006/bills/4312.htm) and its caption reads: An act to amend the Code of Laws of South Carolina, 1976, by adding Section 12-6-3377 so as to allow a state income tax credit equal to twenty percent of certain new hybrid, fuel cell, alternative fuel, or lean burn technology motor vehicle. Credits allowed against a taxpayer's federal income tax liability.

### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed in 2005 and continuing.

### **Additional Information**

See measure 12 for additional information on hybrid vehicle incentives.

## **6. Use higher efficiency engines for school buses**

**Priority A**

### **Description of Measure**

Require purchase of high efficiency engines for school buses as they are replaced. In South Carolina, the SC Department of Education is in charge of maintenance of school buses. DHEC is working with SC Department of Education to obtain grants from EPA. Promote an Adopt-A-School-Bus Program. Endorse a statewide recommendation for the State to take the lead.

December 2005:

- In 2006, approximately 23 diesel buses will be retrofitted with particulate filters, which will create additional PM reductions. The school buses may not be retrofitted until 2007 when ultra-low sulfur diesel is more widely available since the retrofitting technology being applied works best with this new fuel type.

June 2006:

- The South Carolina Department of Education (SDE) has been awarded a Clean School Bus USA Grant for \$499,099 to retrofit some buses in South Carolina with diesel oxidation catalysts and crankcase filters, replace some older buses and conduct a biodiesel pilot and an idle-reduction device pilot.
- State education superintendent Inez Tenenbaum signed an order on June 20, 2006 to buy 630 new school buses with roughly \$36 million appropriated by the Legislature. These buses should be on South Carolina roads by the end of the year. These new buses will replace vehicles from 1984 and 1985 which are not fuel efficient and produce higher levels of polluted emissions than more modern vehicles.
- The benefits from these SDE funding sources will be distributed throughout the state. The SDE has agreed to make York County and the five deferred areas the top priority in assigning new and retrofitted buses to service. SDE is also partnering with private companies and local school districts to provide specific funding for school bus retrofits and clean air programs.

### **Estimate of Emission Reductions (if available)**

VOC reduction is expected to be 355 lbs/yr. CO reductions of 2,737 lbs/year are expected, according to the December 2004 EAC SIP – Appendix 16.

### **Implementation Date**

Completed. Implementation began in 2006 and is continuing.

**7.a. Develop incentive programs and opportunity for citizens to choose alternative transportation modes; Establish inter-modal connections with an emphasis on mass transit. Priority A**

**Description of Measure**

**WALKING/BIKING**

Encourage local government to increase pedestrian/bicycle infrastructure spending (the Upstate spends 2 cents per person compared to SC spending 22 cents per person).

Establish safer bike routes with better signs marking lanes and routes.

Increase highway funding for bike paths, walking or mass transit including high-speed rail.

Support the federal transportation enhancement program. Install bike racks on all transit vehicles to encourage inter-modal transportation. New buses purchased through the state's bus purchase program will have bike racks.

**PARK and RIDE**

Establish mass transportation between a plant and a park-and-ride site.

**CARPOOLING**

Work with local government to offer incentives employees to car pool.

**MASS TRANSIT**

Offer a free trolley service running in a loop in downtown areas and nearby restaurants, especially during lunch hours;

Research past feasibility studies on free downtown shuttles. Potential for sponsorship with local area restaurants and businesses for a lunchtime shuttle could defer the operational costs of the endeavor.

Support mass transit (transportation choices and alternatives): While the only local mass transit choice that is currently available in some areas is the transit bus, example of future options such as bus rapid transit, commuter passenger service offered by trains on existing rail systems, a diesel multiple unit or "light rail" should be supported.

June 2006:

- Clemson Area Transit (CAT) bus lines include the Anderson 4U Route with service to Tri-County Tech and the City of Anderson. This route connects with Electric City Transit. The CAT buses are equipped with bicycle racks for easier transport of bicyclists within the various CAT bus routes. The CAT bus system is a free option, and Electric City Transit offers free rides during the Christmas holiday season (late November-December.)
- Anderson County has attempted to work with owners of vacant stores for use of their vacant parking lot, and with industries to use the parking lot as a point to shuttle workers to and from an industry; however each owner does not wish for the potential liability in their parking lot, and although industries seem amenable, no definitive answer was given from any of the industries..
- The County is currently working with the City of Anderson to possibly reserve parking spaces in the downtown lots for carpooling people. We have not received a response as of yet.

December 2006

- In October 2006, the Clemson Area Transit, a free bus service serving Anderson and Pickens Counties, expanded its service area to Oconee County, providing free service to those people traveling to Anderson County for school and recreation purposes.

**Estimate of Emission Reductions (if available)**



Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed prior to 2005 and continuing.

## **7.b. Offer free or reduced transportation cost on high ozone days**

**Priority A**

### **Description of Measure**

#### **MASS TRANSIT:**

Implement a coordinated high ozone day alert action plan to include public notification and free or reduced ozone fares from the transportation providers.

#### **June 2005:**

- A staff person from the South Carolina Department of Transportation (SCDOT) has been designated to receive SCDHEC's Ground-level Ozone Forecast and to distribute it via email to approximately 5,000 staff. SCDOT also plans to utilize the SCDHEC Ozone Forecast Internet link for the forecast on their webpage. SCDOT roadside emergency signs in the Upstate and Midlands will be utilized for Ground-level Ozone Action Alerts. Anderson has 1 sign.

#### **June 2006:**

- Since 2002 Clemson Area Transit has provided a free shuttle system connecting Anderson University, Tri-County Technical College, Southern Wesleyan University and Clemson University in addition to the City of Clemson, the City of Anderson, and the Towns of Central and Pendleton. Clemson Area Transit has the largest ridership for a fare-free bus line in the United States. It is also South Carolina's most frequently used transit system. The fare-free system is funded through federal grants and matching funds from the city and University. CAT has the most modern fleet of buses east of the Mississippi River.
- Electric City Transit provides discount fares to senior citizens, the disabled, Medicare card holders, students, and children (free).
- Since free and discount fares are already available, when county funding is acquired for the incentives, the programs will be further implemented or expanded.
- At its May 11, 2006 meeting, business leaders in the Air Quality Advisory Committee recommended contacting the Chamber of Commerce and request assistance with conducting fundraising activities to support this program

### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed in 2005 and continuing.

## **7.c. Reduce vehicle miles traveled by developing efficient user-friendly transit systems.**

### **Priority A**

#### **Description of Measure**

Integrate transportation planning with land use planning so public transit can make a comprehensive contribution to economic development and mobility;

Remove local barriers to densification in downtowns, infill areas, and transit stations and corridors.

June 2006:

- The Clemson Area Transit (CAT) system coordinates with the Electric City Transit (ECT) system to provide free or low cost public transportation to Anderson and Pendleton, SC.
- CAT buses are equipped with wheelchair ramps and bicycle racks. CAT also provides personal escorts by appointment to aid new passengers in finding their way around and learning to read the bus map. CAT has partnered with C.U. Parking Services to coordinate a shuttle service from the Park and Ride lot.
- All ECT buses are permitted to leave their regular route at the request of riders who live outside the regular routes.

December 2006

- In September 2006, Anderson County officials asked state officials for \$44,000 to look at whether the area's transit system should be expanded to offer residents more options to get to work. A \$40,000 grant could pay for the feasibility study. Officials from local transit providers and social service agencies have identified that available transportation as a "primary barrier" to finding a job. Creating a more comprehensive transit system will be the first step towards a more regional transit authority. Such a regional system would then fit in well with a high-speed rail system that the state transportation department is looking at to connect South Carolina cities and other cities in the Southeast.

#### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

#### **Implementation Date**

Some actions have been completed prior to 2006. Implementation of additional actions will take place as funding is acquired.

## **8. Review and update air emission inventory for the Upstate**

**Priority A**

### **Description of Measure**

Ensure all industrial sources still operating. Review industrial sources for plant closures. Identify major sources of NOx; Map the locations of point sources (10% of point sources cannot be found); Map the specific locations and the area sources where coal is burned.

December 2003:

- Requested list of all NOx emitting sources from Emission Inventory to verify they are still in operation in Anderson County.

### **Estimate of Emission Reductions (if available)**

Not available.

### **Implementation Date**

Completed. This information was included in the December 10, 2003 Early Action Compact Milestone on pages 20 through 37.

**9. Support SCDHEC in evaluating and seeking reductions from major sources based on modeling. Priority A**

**Description of Measure**

Coordinate with Duke Power to determine what NOx reductions are planned for the Lee Steam Plant. Coordinate with the Williams Company to determine what NOx reductions are planned for the TRANSCO Pipeline. Support NOx reduction strategies in the State Implementation Plan. Develop an Early Reduction Program with incentives for industrial facility (Tier Two Type emissions NOx sources) See info on Duke Power included in Appendix 16 of EAC SIP located at [www.scdhec.gov/eqc/baq/html/eap\\_sip.html](http://www.scdhec.gov/eqc/baq/html/eap_sip.html).

June 2004:

- Transcontinental Gas Pipe Line Corporation (Transco) Station 140, Moore, SC; Operating Permit 2060-0179. Transco has 14 natural gas fired internal combustion (IC) engines that collectively accounted for 3,822 tons of ozone season NOx emissions during 1997. Transco has submitted a construction permit application to put on NOx controls that will result only 1,261 tons of ozone season NOx emissions. The permit was approved on April 27, 2004.

December 2004:

- The Williams Company has received DHEC permits to replace outdated “uncontrolled” compressors on the pipeline located in Duncan. Replacement of the compressors began in late 2004 and continued until late 2005. This will result in a significant NOx reduction for the Upstate.

June 2006:

- NOx reduction at the Duke Power Lee Steam Plant: Coal fired Unit #2 is now operating with the new NOx burners and final manufacture set up for acceptance is to be conducted in June 2006. Monitoring data indicates that the burner should at least meet the 0.23 #NOx/MMBTU's.
- Unit #2 will operate this entire NOx season with the Low NOx burners. Coal fired Unit #1 is currently off line. It will be coming back on line in July 2006 with new NOx burners installed. If the results are similar to Unit #2 Duke Power will also operate this unit the entire NOx season at the 0.23 #NOx/MMBTU's rate or lower. This unit will operate approximately 4-6 weeks and final set up will be conducted.
- Both units will complete final construction permit testing during June, July and August 2006. Duke Power has commitment to install the Low NOx burners on the 2 remaining coal fired units at the Lee Steam Plant. Unit #1 burners were installed April-May 2006 and start-up with Low NOx burners was May 19, 2006. Unit #2 burners were installed March-April 06 and start-up with Low NOx burners was April 15, 2006.

**Estimate of Emission Reductions (if available)**

Not available.

**Implementation Date**

Implementation began in 2004 and was completed May 2006.

**10. Develop a program to offer to purchase or repair smoking vehicles (known as cash for clunkers).**  
**Priority A**

**Description of Measure**

Use funds generated from a license plate sales, registration fees, or license plate tax program to buy or repair high emitting vehicles from individuals.

Purchase such vehicles from non-profit groups such as the Kidney Foundation, Goodwill, Salvation Army when they have been donated as charitable gifts. Consider accelerated vehicle retirement (scrappage) programs to encourage vehicle owners to voluntarily retire their vehicles sooner than they would have otherwise.

- The reduction of the vehicle tax has hampered all efforts to stimulate the beginnings of this program. County Council has stated several times that they as a body will not increase the tax burden on its constituents, and any effort to implement a increase of revenue via millage or tax increase would be voted down.

December 2003:

- During its August 5, 2003, the AQ Staff Advisory Committee discussed this strategy: A high emission vehicle buyback or repair program appears to be cost effective for VOC emissions, but is less clear for NOx emissions. It is hard to quantify the success rate of the program in the various states the program has been implemented, but the program seems to make intuitive sense. This type of program will become increasingly more important as the new vehicle pollution control systems increase the gap between the new vehicle's emissions and the "smoking" vehicle's emissions. Recommendation: funding the high emission vehicle buyback or repair program as a pilot program with a set yearly target for the number of vehicles that will be either repaired or scraped. A follow-up study on this pilot program would need to be implemented to determine the impact on emissions (ozone) for the upstate.

June 2006:

- In the summer 2006, staff from the Air Quality Staff Advisory Committee will meet with Goodwill Industries, Salvation Army and Kidney Foundation representatives to discuss alternatives to re-selling clunker vehicles donated to these organizations.
- As funding is acquired for the incentives, the programs will be implemented.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Implementation began in 2003. Completion of this measure will depend on discussions with the non-profit organizations.

**11. Ban open burning of on-site commercial clearing debris during ozone season (April - October)**  
**Priority A**

**Description of Measure**

Use SCDHEC model to determine the most effective method to ban open burning. Discuss modeling results with all local governments to consider adoption.

December 2005:

- At the November 2005 Air Quality Steering Committee meeting, the Committee directed staff to coordinate with local governments to enforce DHEC's burning ban year-round.
- DHEC encourages Anderson, Greenville, and Spartanburg to actively notify all residents that the statewide ban is now in force and violations are punishable by law.
- A DHEC press release was issued to the upstate on November 8, 2005

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed on June 25, 2004 with the passage of regulation SC 61-62.2 "Prohibition of Open Burning".

**12. Create incentives for the purchase of high efficiency and low emissions vehicles.**  
**Priority A**

**Description of Measure**

Offer tax credits for vehicles with high efficiency gas consumption or low emissions.

Offer tax credits for low mileage vehicles instead of high mileage vehicles December 2004 –SC State led developing draft bill to offer reduced tax incentives for those purchasing low emitting vehicles. See below

\*\*\*\*Develop air quality best management practices (BMPs)\_ for construction sites - Develop a generic list of BMPs

Develop management practices for construction debris.

Develop management practices for emissions from construction vehicles.

Develop management practices for traffic controls during construction.

December 2004:

- Developing draft bill to offer reduced tax incentives for those purchasing low emitting vehicles.

June 2005:

- A bill titled; An act concerning the promotion Of alternative use fuel, and hybrid propulsion System For transportation purposes was submitted to the SC House of representatives in January 2005. The bill is now in committee. In summary, the bill provides tax credit for vehicles using alternative fuel or hybrid propulsion vehicles. The credit is allowed against the tax imposed by for the purchase of vehicles licensed in South Carolina which use, or which are converted within 120 days of purchase to use, clean-burning fuel. Specifically the intent of the bill will apply for income tax years beginning on or after January 1, 2004, but prior to January 1, 2013. The tax credit will be allowed for the purchase of an alternative fuel or hybrid propulsion vehicle, and for a motor vehicle that is converted to use alternative fuel, for the replacement of the power source with a power source that uses alternative fuel.

June 2006:

- On June 1, 2006 the Governor signed the H\*4312(Rat #0371) General Bill. Act 312, R371, H4312 Bill may be viewed at [http://www.scstatehouse.net/sess116\\_2005-2006/bills/4312.htm](http://www.scstatehouse.net/sess116_2005-2006/bills/4312.htm) and its caption reads: AN ACT TO AMEND THE CODE OF LAWS OF SOUTH CAROLINA, 1976, BY ADDING SECTION 12-6-3377 SO AS TO ALLOW A STATE INCOME TAX CREDIT EQUAL TO TWENTY PERCENT OF CERTAIN NEW HYBRID, FUEL CELL, ALTERNATIVE FUEL, OR LEAN BURN TECHNOLOGY MOTOR VEHICLE CREDITS ALLOWED AGAINST A TAXPAYER'S FEDERAL INCOME TAX LIABILITY.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Implementation began in 2005 and was completed June 1, 2006.



### **13. Use land-use and transportation planning to improve air quality Priority A**

#### **Description of Measure**

Include air quality measures as a part of the land-use and transportation planning process.

December 2004:

- Highlights of the Anderson County Land Use and Development Standards include items that develop standards with respect to landscaping and open space, promote public health and safety through the reduction of noise pollution, storm water runoff and air pollution. Also included are development standards with “Greenways” defined which link residential areas with other open space areas. These Greenways may contain bicycle paths, footpaths, and bridle paths. Additionally, intensity standards (designed principally to regulate land use in accordance with the design function and carrying capacity of the road on which it is located) are being developed.

June 2006:

- In the review process, Transportation staff does employ traffic thresholds that require various levels of congestion mitigation to reduce idling times, and they have been using the internal thresholds for two years. However, these thresholds are not defined in the ordinance, and so the review is intended as guidance for future use to show where potential problems are most likely to occur in the future.

#### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

#### **Implementation Date**

Completed in 2004.

#### **14. Implement a program to encourage use of green power. Priority A**

##### **Description of Measure**

Capture emissions from landfills to produce green power, e.g., BMW is utilizing Palmetto Landfill emissions to produce energy for its plant. Implement a Purchase Green Power program when available. Green power is electricity generated by renewable resources like solar, wind, and even decomposing garbage in selected landfills. These resources are replenished naturally and minimize harm to the environment.

December 2005:

- In 2005, Blue Ridge Electric Cooperative in Anderson County has begun offering the purchase of "Green Power" to its members. The Green Power is generated by Santee Cooper, who is the source of power for all of the electric cooperatives in South Carolina.
- Santee Cooper is constructing a Green Power station at the Anderson Regional Landfill that will enter commercial operation in 2006.

##### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

##### **Implementation Date**

Completed in 2005 and continuing.

## **15. Promote route efficiency for delivery vehicles, trash collection etc. Priority A**

### **Description of Measure**

Encourage business to consolidate distribution and collection routes to improve efficiency and reduce emissions from their fleets. Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle trips to reduce fuel usage.

June 2006:

- The Solid Waste Division, since 2003, has encouraged and continues to encourage all its trash haulers to use the most direct route to pick up trash. This will reduce driving time and reduce emissions.
- Delivery companies currently use GPS mapping programs to map the most cost effective route to save gasoline. The local public transportation system have designated routes, but they take steps to reduce idling time of the buses, such as reducing speeds and an 2 minute tardy schedule to make sure no one is left behind at a bus stop. They have been implementing these gas saver items since 2000.

### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed in 2003 and continuing.

## **16. Establish a clean air partnership with business and industry. Priority A**

### **Description of Measure**

Encourage and coordinate alternate work schedules such as staggered work hours for business, industry and local governments. Establish park and ride lots serving perimeter counties along major corridors. Make the public aware of the park-and-ride concept: media could assist in publicizing which programs are available. Encourage carpooling/vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicle to work. Consider parking facility controls that can include employers offering a tax-free transit/vanpool benefits and which limit the amount of parking and encourage carpooling, mass transit, etc. Encourage telecommuting.

Adopt a Bus Program. Develop funding to be used for matching grants fund for several EAP strategies. Develop a core competency and assisting the Upstate EAP group in writing grant proposal.

June 2004:

- Staffs of Greenville County Planning Commission, Greenville Transit Authority and Greater Greenville Chamber of Commerce have begun joining effort to develop a feasibility study for Park-n-Ride program and/or Ride-Share program for Greenville County. Information will be shared with Anderson and Spartanburg counties.

December 2005:

- Michelin North America, on November 29, 2005 announced that their two Anderson County plants have qualified for membership in the National Environmental Performance Track program. They are among 400 facilities nationwide that have met the stringent requirements. Michelin is also investing \$80 million to expand and upgrade the two plants to reduce environmental impacts within Anderson County.
- Duke Power has agreed to reduce the idling time for their vehicles during ozone season. During ozone season, all vehicles will not idle for more than 30 seconds before the vehicle is shut down. With the 88 diesel trucks and 265 gasoline trucks in use in Anderson County, that equates to a reduction of 530 pounds VOC reduced and 765 pounds NOx reduced during ozone season.
- Michelin, Wal-Mart and Sonic were corporate sponsors for the gas can exchange event that was held in Anderson County on September 10, 2005.
- In the November 2005, the Air Quality Steering Committee directed staff to begin addressing this strategy before the 2006 ozone season.

June 2006:

- In early 2006, Associated Fuel Pump Systems Corporation (AFCO) announced that they also have qualified for membership in the National Environmental Performance Track program.
- Businesses and industry have established its own production schedule, based upon the demands placed upon them by their customers, and have not, to this point, determined that an alternative work schedule will keep them in business. As of yet, we have not received word from them to note that telecommuting would be a beneficial act for their businesses as well. As far as carpooling, Michelin NA does have stenciled parking spots for carpoolers, but in other cases it is individual drivers wishing to carpool that are driving the efforts.

### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed in 2005 but progress and improvements will continue on this strategy.

## **17. Establish an active public awareness campaign.**

**Priority A**

### **Description of Measure**

Develop an editorial board to discuss air quality issues and development of a relationship with media. Use alert messages year round, not only during ozone season; Utilize public service announcement, newspapers, weather channels, and other media outlets to notify citizens of high ozone days; Utilize TV Channels to issue high ozone alerts using the crawl bar at bottom of TV screens. Encourage health organizations to sponsor ozone alerts in media. Enhance ozone awareness (Outreach-communication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC ground-level ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing, telecommuting, etc.). Develop a campaign to encourage things such as refueling vehicles during evenings, not topping off tanks when refueling, using lawnmowers during evenings instead of during high ozone hours, using of electric lawn mowers. Develop a license plate program to generate revenue to implement the public awareness campaign. Develop awareness program on tax savings for purchasing high efficiency vehicles.

December 2005:

- Anderson County held a gas can exchange program on September 10, 2005, taking in 83 old cans.
- Anderson County Staff sent out a news release (03/28/05) on Ground-level Ozone Awareness Week and promoted this week on a local radio station, WRIX 103.1 FM. An article on Ground-level Ozone was also placed on their county webpage: [www.andersoncountysc.org](http://www.andersoncountysc.org). Anderson County received and distributed 200 Ozone and Your Health brochures.

June 2006:

Anderson County continues to keep its citizens aware of the importance of having good air quality. Here is a list of things we have done and are currently doing:

- An Ozone-No-zone seminar with Keep America Beautiful of Anderson County and Anderson County Environmental Services Division held a, a local education program teaching how ground level ozone affects our daily lives.
- 4-U Transit system connecting Anderson, Pendleton, Clemson and Central; Anderson's Electric City Transit "FARE Free" program; light rail project;
- Tree legacy program, Tree I.D. program; Arbor Day plantings; City of Iva continual member of "Tree City USA" Ozone Awareness Week;
- Earth camp, offered at the Anderson Co. Recycling Education Center, provides children with stimulating outdoor learning experiences about the ecology of soils, water, forests and wildlife and the stewardship of these important resources. Topics covered include Air Quality, Recycling, and Trees.

December 2006

- On July 31, 2006, the Greenville News published an article titled "More air woes could blow Upstate's way."
- On July 16, 2006 the Greenville News published an article titled "Emissions levels suit creates cloud of uncertainty for industry."

**Estimate of Emission Reductions (if available)**

VOC reductions of 355 lbs/year are expected from the gas can exchange program.  
No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed in 2005. Education and outreach are continuing.

**18. Promote research in energy efficiency at local universities, industries, energy companies, federal government, and other institutions that improve air quality.**

**Priority A**

**Description of Measure**

Establish programs to research energy efficiencies at local universities, e.g., Institute for Energy Studies at Clemson University. Encourage business and industry to utilize the research from these programs to make the best decision concerning the purchase or upgrade of furnaces and boilers.

June 2004:

- Members of the Air Quality Staff Advisory Committee met with staff from the SC Institute for Energy Studies (SCIES) from Clemson University in late summer 2003. As a result, researchers from SCIES made a presentation to the Committee on November 18, 2003. The South Carolina Institute for Energy Studies (SCIES) based at Clemson University is a state-chartered research and development organization established in 1981. Its objectives are to promote energy research and development in and for the state; to transfer energy technology developed by others to South Carolina applications; to contribute to national energy issues in areas of excellence; and to promote statewide energy-education activities. (Source: <http://www.clemson.edu/scies/AboutSCIES.htm>). Researchers from SCIES became members of the Air Quality Staff Advisory Committee mailing list to transfer knowledge and latest undertakings on these efforts.

December 2005:

- **ALTERNATIVE FUELS:** In 2005, Clemson University Chemical engineering professor Mark C. Thies received an \$856,000 award from the Department of Energy (DOE) to develop more efficient processes for the centralized production of hydrogen by splitting water. The award was one of only three made nationwide under DOE's Nuclear Hydrogen initiative. In addition to Thies, the project team includes fellow Clemson David Bruce, John O'Connell from the University of Virginia and Max Gorenssek from Savannah River National Lab. The Clemson team will interact not only with U. S. engineers and scientists but also with those in France, Italy, and Japan, all of whom have teams working on related processes.
- Clemson University is developing the International Center for Automotive Research (Clemson-ICAR) in Greenville, SC. The ICAR project will be the premier automotive and motorsports research and educational center in SC. Research will emphasize development of innovative materials and processing technologies, which will enable the development of more efficient and environment friendly vehicles, as well as electrical power generators.

June 2006:

- Clemson University chemical engineering professor Mark C. Thies continues investigating the centralized production of hydrogen via water splitting.  
(Source: <http://www.ces.clemson.edu/chemeng/research.html>)

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed November 2003 but will continue monitoring progress of ongoing research.



## **19. Use of alternate fuels.**

## **Priority B**

### **Description of Measure**

Direct local Planning Commissions to identify areas where alternative fuels will be best suited. Encourage the use of alternate fuels; Assist with establishing alternative fuel infrastructure for private sector clean fuel fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles. Anderson County owns 37 alternative fuel vehicles and purchased 1,520 gallons of biodiesel in 2004.

December 2004:

- There were 1,520 gallons of biodiesel purchased in 2004 in Anderson County.
- Currently there are no ethanol refueling facilities in Anderson County, but plans call for the construction of one by the end of 2005.

December 2005:

- **ALTERNATE FUELS:** In 2005, Clemson University Professor James G. Goodwin, Jr., chair of the Clemson's chemical and biomolecular engineering department, received a DOE grant for energy research through DOE's State Technologies Advancement Collaborative. Goodwin's work focuses on the performance of iron-based bimetallic catalysts that are crucial to synthesis of clean fuels, additives and lubricants derived from coal and biomass gasification. Clemson will lead a partnership that includes Louisiana State University, the S.C. State Energy Office, the Louisiana State Energy Office, North Carolina's Research Triangle Institute, Rentech and Sud-Chemie Inc. This grant reflects \$875,499 in DOE-STAC funds and \$294,499 in cost sharing by the industrial and governmental participants. Anderson County is presently applying for a grant from the EPA to fund a E85 gasoline pump at a gas station within Anderson to promote alternative fuel usage within the county.
- There is currently one Spinx station that offers Ethanol 85% fuel in Anderson County. There are 5 other Ethanol 85% stations and 5 biodiesel stations within a 25 mile radius of downtown Anderson. Stations can be located using the U.S. Department of Energy Alternative Fuels Data Center Website at <http://www.eere.energy.gov/afdc/infrastructure/locator.html>

June 2006:

- There are currently 2 public Spinx stations that offer E85 in Anderson County. Both Spinx stations currently offer Biodiesel. Stations can be located using the U.S. Department of Energy Alternative Fuels Data Center Website at <http://www.eere.energy.gov/afdc/infrastructure/locator.html>

### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

### **Implementation Date**

Completed in 2005 and continuing.

## **20. Evaluate the use of High Occupancy Vehicle (HOV) lanes using existing lanes.**

### **Priority B**

#### **Description of Measure**

Evaluate use of HOV on three (3) lane interstate highways; Show the advantages of designating HOVs; Pass laws establishing regulations on HOVs lanes such as the threshold in the number of passengers (perhaps two) in the vehicle using HOVs lanes and time of day for the lane to be designated as HOV (rush hour); Pass laws authorizing issuance of tickets for violations of HOVs lanes regulations, i.e., one-passenger vehicles using HOV lanes on designated hours.

December 2003:

- During its August 5, 2003, the AQ Staff Advisory Committee discussed and evaluated the implementation of this strategy. The Committee concluded that “HOV lanes work best where an interstate or a limited access arterial lead directly to major employment centers, usually within a central business district (CBD). With the exception of I-385 leading to the Greenville CBD, Upstate interstates (especially I-85) generally link the cities of Anderson, Greenville, and Spartanburg via peripheral routes, not conducive to the addition of HOV lanes. In addition, inter-county work trends do not show major volumes that would support car-pooled trips. Making the third lane of I-85 an HOV lane would severely increase congestion, emissions, and future accidents. The addition of new lanes would be cost prohibitive, and would not be allowed to revert to a single occupancy vehicle (SOV) status without reimbursement to the federal government.”

December 2004:

- Traffic engineers with SCDOT indicate that because traffic volumes on I-85 exceed 100,000 vehicles daily on the 3 lanes of the interstate it would be unwise to convert one of the three lanes to a HOV lane. The offsetting increase in congestion in the two remaining lanes would predictably increase NOx emissions by an amount exceeding the any reductions gained from traffic moving in the HOV lane. HOV lanes work best when they are paralleled by at least 4 or more free-flow lanes. No further actions are planned.

#### **Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

#### **Implementation Date**

Completed in 2004.

**21. Modify speed limits for optimum fuel efficiency.**

**Priority B**

**Description of Measure**

Direct SCDHEC and SCDOT to take the lead role. Direct Planning Commissions to assist SCDHEC in modeling.

December 2005:

- The ANATS MPO was designated as urban by the US Census following the 2000 census and as a result speed limits on the interstate highways for the majority of Anderson County has been established at 60 mph. According to the Department of Energy, gas mileage decreases rapidly at speeds above 60 mph.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed in 2005.

**22. Develop process for evaluating and minimizing impact of major projects such as shopping centers, schools, and subdivisions.**

**Priority B**

**Description of Measure**

Study impact of post construction traffic flow. Study impact of construction activities.

June 2006:

- If land is zoned for the intended use of the property, the traffic impacts are monitored via trip monitors that measure the traffic flow through a particular stretch of roadway to use in future planning of road widening projects.
- If land is not zoned for the type of land use a developer wishes to use it for, he or she must petition the County Council to change the zoning for the new purpose.
- Planning officials will also inform Council whether it approves of or disapproves of the zoning request, depending on the current population density, the current condition of the road, and the potential for increase in congestion. Although the Planning division can disapprove of a project, the developer can still make the request of the Council.
- At the Council meeting, residents in the affected areas can also state their wishes for the development. The Council takes all this information under consideration, but ultimately it will be up to the Council to approve or deny.
- These policies were enacted July 20, 1999, and revised April 15, 2003.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed in 2003.

**23. Community Schools to reduce vehicle miles traveled and encourage biking and walking for students and parents by encouraging smaller community-based schools that are integrated into neighborhoods**  
**Priority B**

**Description of Measure**

Eliminate minimum acreage requirements for school sites. Cap student populations per facilities. Require coordination among school boards and local governments to plan school sites and avoid conflicts with local planning goals. Favor restoration and construction of community-based small schools over new construction of remote mega schools.

June 2006:

- Anderson County encourages the State to modify the state law that dictates minimum acreage for schools, and also encourages the school districts to refurbish existing schools. If the school districts and the state ever decided this would become policy, Anderson County would not have any hesitation to wholeheartedly back all the school districts within the county in their efforts to create community schools to reduce traffic
- The South Carolina School District Reorganization and Realignment Act of 2006 was introduced in the House on January 24, 2006 and is currently residing in the House Committee on Education and Public works. This bill states that the Education and Oversight Committee shall study and examine the optimum size, including both geographic area and student population. A copy of this bill is available online at [http://www.scstatehouse.net/sess116\\_2005-2006/bills/4488.htm](http://www.scstatehouse.net/sess116_2005-2006/bills/4488.htm)
- Anderson County is awaiting the committee's recommendations and the manner in which they may take effect if this bill is enacted.

**Estimate of Emission Reductions (if available)**

Not available. No reduction credits were taken for this measure in the South Carolina Early Action Compact SIP.

**Implementation Date**

Completed in 2006 and continuing.

**Additional Information**

- SECTION 203 SCHOOL SITES  
203.1 South Carolina Code Ann. § 59-23-250 (to be codified at Supp. 2003) eliminates minimum acreage requirements for public school sites. However, school districts must receive approval from the South Carolina Department of Education prior to property acquisition or additions on existing properties.  
203.2 The State Department of Education encourages districts to consider acreage for school sites as established by the Council of Educational Facility Planners International (CEFPI).